CIVIL TECH LABS

Accredited by **NABL** as per ISO/ IEC 17025 : 2005

5, 1st Cross, Srinivasa Colony, Mission Road, Bangalore - 560027

Ph: 080 - 4114 2867 / Mob. : 96862 31801, Email: civiltechlabs@gmail.com

T-2654

To,

Assistant Executive Engineer
Yelahanka New Town Sub Division,
BBMP Bangalore.

10th December 2015

Dear Sir,

Sub: Testing of Wet Mix Macadam.

As requested, tests on physical properties were carried out for the Wet Mix Macadam Samples supplied by you, for the work of **'Asphalting to roads in Narayanappa Layout in Ward No. 4, Yelahanka New Town.'**

Please find the enclosed Test Reports of the above.

Thanking You,
For Civil Tech Labs

(KHUSHBOO L.)
Quality Manager

CIVIL TECH LABS BANGALORE

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TEST REPORT

GRADATION TEST ON WET MIX MACADAM

Name & Address of the Customer	AEE, Yelahanka New Town Sub Division, BBMP
Name of Work	Asphalting to roads in Narayanappa Layout in Ward No. 4, Yelahanka New Town.
Name of the Agency	Sri. H. Suresh
Date of Testing	10/12/2015
Technical Reference	MORTH Table 400-11

	Sample-1		
IS Sieve Designation (mm)	**% By Weight Passing IS Sieve**	**Actual % By Weight Passing IS Sieve**	**Remarks**
53	100	**100**	**Satisfy the Requirements**
45	95-100	**98.6**	
22.4	60-80	**73.5**	
11.2	40-60	**55.8**	
4.75	25-40	**34.8**	
2.36	15-30	**25.1**	
0.6	8-22	**17.3**	
0.075	0-8	**5.9**	

Note:

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3.Any correction invalidates this report.

4.The results are based on the test conducted on samples supplied by the customer.

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TEST REPORT

GRADATION TEST ON WET MIX MACADAM

Name & Address of the Customer	AEE, Yelahanka New Town Sub Division, BBMP
Name of Work	Asphalting to roads in Narayanappa Layout in Ward No. 4, Yelahanka New Town.
Name of the Agency	Sri. H. Suresh
Date of Testing	10/12/2015
Technical Reference	MORTH Table 400-11

	Sample-2		
IS Sieve Designation (mm)	**% By Weight Passing IS Sieve**	**Actual % By Weight Passing IS Sieve**	**Remarks**
53	100	**100**	**Satisfy the Requirements**
45	95-100	**99.2**	
22.4	60-80	**74.5**	
11.2	40-60	**56.3**	
4.75	25-40	**35.2**	
2.36	15-30	**26.1**	
0.6	8-22	**18.5**	
0.075	0-8	**6.1**	

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TEST REPORT

GRADATION TEST ON WET MIX MACADAM

Name & Address of the Customer	AEE, Yelahanka New Town Sub Division, BBMP
Name of Work	Asphalting to roads in Narayanappa Layout in Ward No. 4, Yelahanka New Town.
Name of the Agency	Sri. H. Suresh
Date of Testing	10/12/2015
Technical Reference	MORTH Table 400-11

	Sample-3		
IS Sieve Designation (mm)	**% By Weight Passing IS Sieve**	**Actual % By Weight Passing IS Sieve**	**Remarks**
53	100	**100**	**Satisfy the Requirements**
45	95-100	**98.5**	
22.4	60-80	**74.2**	
11.2	40-60	**54.4**	
4.75	25-40	**35.1**	
2.36	15-30	**26.8**	
0.6	8-22	**18.1**	
0.075	0-8	**6.2**	

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TEST REPORT

GRADATION TEST ON WET MIX MACADAM

Name & Address of the Customer	AEE, Yelahanka New Town Sub Division, BBMP
Name of Work	Asphalting to roads in Narayanappa Layout in Ward No. 4, Yelahanka New Town.
Name of the Agency	Sri. H. Suresh
Date of Testing	10/12/2015
Technical Reference	MORTH Table 400-11

	Sample-4		
IS Sieve Designation (mm)	**% By Weight Passing IS Sieve**	**Actual % By Weight Passing IS Sieve**	**Remarks**
53	100	**100**	**Satisfy the Requirements**
45	95-100	**98.9**	
22.4	60-80	**74.1**	
11.2	40-60	**54.7**	
4.75	25-40	**35.1**	
2.36	15-30	**26.2**	
0.6	8-22	**16.4**	
0.075	0-8	**5.7**	

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TEST REPORT

TEST ON THE DETERMINATION OF BITUMEN CONTENT ON SEMI DENSE BITUMINOUS CONCRETE MIX-GRADE 2

Name & Address of the Customer	AEE, Yelahanka New Town Sub Division, BBMP
Name of Work	Asphalting to roads in Narayanappa Layout in Ward No. 4, Yelahanka New Town.
Name of the Agency	Sri. H. Suresh
Date of Testing	20/12/2015

A)

Sl. No.	Test	Test Method	Technical Reference
1	Extraction of mineral aggregate	Test Method A (Centrifuge Method)	ASTM: D2172/ D2172M-11
2	Determination of amount of mineral matter/fines in the extract	Ashing Method	

B)

Specification: As Per MORTH (4th Revision) Table 500-15, Bitumen Content for SDBC Grade-2 is MIN 5%

Sl. No.	Description	Values
1	Weight of bituminous mixture before extraction test, W_1 g	2000
2	Weight of mineral aggregate obtained from centrifuge extractor, W_2 g	1883.7
3	Weight of mineral matter in the total volume of extract (by ashing), W_3 g	11.8
4	Total weight of aggregate in the bituminous mixture, W_4 g = (W_2 +W_3) g	1895.5
5	Total weight of Bitumen extracted from the mixture, W_5 g = (W_1-W_4) g	104.5
6	Bitumen content in %, (W_5/W_1) %	5.23

Remarks	**Satisfies the requirements.**

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TEST REPORT

GRADATION TEST ON SEMI DENSE BITUMINOUS CONCRETE MIX GRADE - 2

Name & Address of the Customer	AEE, Yelahanka New Town Sub Division, BBMP
Name of Work	Asphalting to roads in Narayanappa Layout in Ward No. 4, Yelahanka New Town.
Name of the Agency	Sri. H. Suresh
Date of Testing	20/12/2015
Technical Reference	IS : 2386(Part I)-1963 (Reaffirmed 2011)

	Sample-2		
IS Sieve Designation (mm)	**% By Weight Passing IS Sieve as per MORTH (4th Revision) Table 500-15 for SDBC Grade-2**	**Actual % By Weight Passing IS Sieve**	**Remarks**
13.2	100	100	Satisfies the requirements
9.5	90-100	99.1	
4.75	35-51	44.3	
2.36	24-39	26.8	
1.18	15-30	24.4	
0.3	9-19	15.3	
0.075	3-8	6.3	

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Khushboo

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TEST REPORT

TEST ON DETERMINATION OF BITUMEN CONTENT ON BITUMINOUS CONCRETE MIX-GRADE 2

Name & Address of the Customer	AEE, Yelahanka New Town Sub Division, BBMP
Name of Work	Asphalting to roads in Narayanappa Layout in Ward No. 4, Yelahanka New Town.
Name of Agency	Sri. H. Suresh
Date of Testing	21/12/2015

A)

Sl. No.	Test	Test Method	Technical Reference
1	Extraction of mineral aggregate	Test Method A (Centrifuge Method)	ASTM: D2172/ D2172M-11
2	Determination of amount of mineral matter/fines in the extract	Ashing Method	

B)

Specification: As Per MORTH (4th Revision) Table 500-18, Bitumen Content for BC Grade-2 is 5% to 7%		
Sl. No.	**Description**	**Values**
1	Weight of bituminous mixture before extraction test, W_1 g	2000.00
2	Weight of mineral aggregate obtained from centrifuge extractor, W_2 g	1876.30
3	Weight of mineral matter in the total volume of extract (by ashing), W_3 g	12.22
4	Total weight of aggregate in the bituminous mixture, W_4 g = (W_2 +W_3) g	1888.52
5	Total weight of Bitumen extracted from the mixture, W_5 g = (W_1-W_4) g	111.48
6	Bitumen content in %, (W_5/W_1) %	5.57

Remarks	**Satisfies the requirement.**

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TEST REPORT

GRADATION TEST ON BITUMINOUS CONCRETE MIX GRADE - 2

Name & Address of the Customer	AEE, Yelahanka New Town Sub Division, BBMP
Name of Work	Asphalting to roads in Narayanappa Layout in Ward No. 4, Yelahanka New Town
Name of Agency	Sri. H. Suresh
Date of Testing	21/12/2015
Technical Reference	IS : 2386(Part I)-1963 (Reaffirmed 2011)

	Sample-1		
IS Sieve Designation (mm)	% By Weight Passing IS Sieve as per MORTH (4th Revision) Table 500-18 for BC Grade-2	Actual % By Weight Passing IS Sieve	Remarks
19	100	100	Satisfies the requirements
13.2	79-100	98.9	
9.5	70-88	85.6	
4.75	53-71	68.4	
2.36	42-58	48.1	
1.18	34-48	38.9	
0.6	26-38	34.1	
0.3	18-28	25.3	
0.15	12-20	15.2	
0.075	4-10	7.9	

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Name & Address of the Customer	AEE, Yelahanka New Town Sub Division, BBMP
Name of Work	Asphalting to roads in Narayanappa Layout in Ward No. 4, Yelahanka New Town.
Name of Agency	Sri. H. Suresh
Date of Testing	21/12/2015
Technical Reference	IS : 2386(Part I)-1963 (Reaffirmed 2011)

	Sample-2		
IS Sieve Designation (mm)	% By Weight Passing IS Sieve as per MORTH (4th Revision) Table 500-18 for BC Grade-2	Actual % By Weight Passing IS Sieve	Remarks
19	100	100	Satisfies the requirements
13.2	79-100	99.1	
9.5	70-88	86.4	
4.75	53-71	67.3	
2.36	42-58	47.5	
1.18	34-48	39.3	
0.6	26-38	33.7	
0.3	18-28	24.4	
0.15	12-20	14.3	
0.075	4-10	8.3	

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